

REMARKS

The claims have been amended to correct the informalities noted by the Office. It is believed that these amendments dispose of the rejection under 35 U.S.C. § 112, paragraph 2. In addition, the limitations of claim 4 have been inserted into claim 1 to expedite prosecution in view of the acknowledgement of the clear novelty distinction made by the Office. Claim dependency of claim 15 has been changed accordingly.

Clearly no new matter is added by these amendments.

The sole remaining rejection is made over the combination of Morris in view of Lakowicz. The Office asserts that Morris teaches all of the elements of the present claims except for substituting collisional quenching for the quenching that occurs when light is emitted by one molecule and absorbed by another. This, however, is not true.

The noted section of Morris in column 2, last paragraph, describes a system whereby enzyme activity is measured by using a substrate that contains both a fluorescence emitter and a fluorescence quencher in proximity. When the enzyme cleaves the substrate, the emitter and quencher are separated so that no quenching occurs. It will be immediately noted that this description is applicable only to assaying for the presence of an enzyme activity, and cannot be designed to assay for the concentration of a substrate for an enzyme as now required by claim 1. Thus, the entire nature of the assay is different from that now claimed.

In addition, the method actually described by Morris as Morris' invention could not be adapted to the assay method claimed herein either since the fluorescent matrix is not free to collide with quenchers in a solution containing analyte as described in column 4, at lines 46, *et seq.* In

the systems described by Morris, collisional quenching is actually precluded and thus taught away from.

The relevance of Morris' column 4, line 24, cited by the Office is unclear as in the case of the present invention, turbidimetric or nephelometric reactions with a reader would be inappropriate. Similarly, the requirement in column 5, first full paragraph, that the chromogenic reagents have an absorption spectrum that overlaps the spectrum of a fluorophore is irrelevant to collisional quenching since no light is ever emitted that needs to be absorbed.

Thus, the claims as now presented differ from Morris in several other respects other than requiring collisional quenching as opposed to standard emission/absorption quenching.

Even if this were not the case, applicant is unable to find any basis for the statement that collisional quenching would "likely achieve greater sensitivity and specificity because collisional quenching is more specific regarding the compound that quenches and has a greater quenching effect than absorbance as related to concentration." Applicant cannot see how this is so. In standard enzyme activity assays such as those described by Morris in column 2, the quenching is highly specific as the emitter and absorber are tied together in a single compound. As pointed out above, absorbance quenching as taught by Morris in column 2 cannot possibly be used to assay the concentration of substrate in the context of an enzyme reaction because these enzyme assay reactions rely on the ability of an enzyme to separate two physically tied participants in the quenching reaction.

Thus, in light of the presently amended claims and the foregoing discussion, applicant believes that claims 1, 13 and 15 are in a position for allowance and passage of these claims to issue is respectfully requested.

In the unlikely event that the transmittal letter is separated from this document and the Patent Office determines that an extension and/or other relief is required, applicant petitions for any required relief including extensions of time and authorize the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to **Deposit Account No. 03-1952** referencing docket No. 527832000420.

Respectfully submitted,

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